

CLAIMS

1. An aluminum nitride sintered body containing sulfur.
- 5 2. The aluminum nitride sintered body according to claim 1,
wherein the content of said sulfur is in a range of 0.05
to 200 ppm.
3. The aluminum nitride sintered body according to claim 1 or
10 2,
wherein said aluminum nitride sintered body contains
oxygen.
4. An aluminum nitride sintered body,
15 wherein said aluminum nitride sintered body exhibits a
state of intragranular fracture at the time of fracture and the
average grain diameter of a ceramic grain thereof is 3 μm or
less.
- 20 5. A ceramic substrate having a conductor inside thereof or on
the surface thereof,
wherein said ceramic substrate has been sintered such that
a sectional view of fracture thereof exhibits intragranular
fracture.
- 25 6. The ceramic substrate according to claim 5,
wherein the average grain diameter of a ceramic grain
thereof is 3 μm or less.
- 30 7. The ceramic substrate according to claim 5 or 6,
wherein said ceramic substrate comprises nitride ceramic
and said nitride ceramic contains sulfur therein.
- 35 8. The ceramic substrate according to any of claims 5 to 7,
wherein the content of said sulfur is in a range of 0.05

to 200 ppm.

9. The ceramic substrate according to any of claims 5 to 8,
wherein said ceramic substrate contains oxygen.

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10. A ceramic heater,
wherein the ceramic substrate according to any of claims
5 to 9 is used.

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11. An electrostatic chuck,
wherein the ceramic substrate according to any of claims
5 to 9 is used.

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12. A ceramic substrate having a conductor inside thereof or
on the surface thereof,
wherein the average grain diameter of the ceramic grain
of said ceramic substrate is 2 μm or less.

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13. A ceramic heater,
wherein the ceramic substrate according to claim 12 is
used.

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14. An electrostatic chuck,
wherein the ceramic substrate according to claim 12 is
used.

15. A ceramic substrate having a conductor formed inside thereof
for a semiconductor producing/examining device,
wherein:

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a ceramic layer including said conductor and the vicinity
thereof and a ceramic layer located lower than said conductor
exhibit a state of intergranular fracture at the time of fracture;
and

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a ceramic layer other than said ceramic layers exhibits
a state of intragranular fracture at the time of fracture.

16. An electrostatic chuck having an electrostatic electrode and a resistance heating element formed inside a ceramic substrate thereof,

5 wherein:

 a ceramic layer including said conductor and the vicinity thereof and a ceramic layer located lower than said conductor exhibit a state of intergranular fracture at the time of fracture; and

10 a ceramic layer other than said ceramic layers exhibits a state of intragranular fracture at the time of fracture.